

**WHAT IS CLAIMED:**

1. An isolated DNA molecule encoding a hypersensitive response eliciting protein or polypeptide, wherein the isolated DNA molecule is selected from the group consisting of (a) a DNA molecule comprising a nucleotide sequence of SEQ. ID. No. 1, (b) a DNA molecule encoding a protein comprising an amino acid of SEQ. ID. No. 2, (c) a DNA molecule which hybridizes to a DNA molecule comprising a nucleotide sequence of SEQ. ID. No. 1 under stringent conditions, and (d) a DNA molecule complementary to DNA molecules (a), (b), and (c).
2. An isolated DNA molecule according to claim 1, wherein said DNA molecule is a DNA molecule comprising a nucleotide sequence of SEQ. ID. No. 1.
3. An isolated DNA molecule according to claim 1, wherein said DNA molecule is a DNA molecule encoding protein comprising an amino acid of SEQ. ID. No. 2.
4. An isolated DNA molecule according to claim 1, wherein said DNA molecule is a DNA molecule which hybridizes to a DNA molecule comprising a nucleotide sequence of SEQ. ID. No. 1 under stringent conditions.
5. An isolated DNA molecule according to claim 1, wherein said DNA molecule is a DNA molecule complementary to DNA molecules (a), (b), and (c).
6. An expression vector transformed with the DNA molecule of claim 1.
7. An expression vector according to claim 6, wherein the DNA molecule is in proper sense orientation and correct reading frame.
8. A host cell transformed with the DNA molecule of claim 1.

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Figure 1. The effect of the concentration of the  $\text{H}_2\text{O}_2$  solution on the amount of the released  $\text{H}_2\text{O}_2$  from the  $\text{H}_2\text{O}_2$ -loaded hydrogel. The amount of the released  $\text{H}_2\text{O}_2$  was measured by the amount of the released  $\text{H}_2\text{O}_2$  from the  $\text{H}_2\text{O}_2$ -loaded hydrogel. The amount of the released  $\text{H}_2\text{O}_2$  was measured by the amount of the released  $\text{H}_2\text{O}_2$  from the  $\text{H}_2\text{O}_2$ -loaded hydrogel.

17. An isolated hypersensitive response eliciting protein or polypeptide selected from the group consisting of a protein or polypeptide having an amino acid comprising SEQ. ID. No. 2, and an amino acid encoded by a nucleic acid which hybridizes to a DNA molecule comprising a nucleotide sequence of SEQ. ID. No. 1.

18. An isolated protein or polypeptide according to claim 17, wherein the protein or polypeptide has an amino acid comprising SEQ. ID. No. 2.

19. An isolated protein or polypeptide according to claim 17, wherein the protein or polypeptide is encoded by a nucleic acid which hybridizes to a DNA molecule comprising a nucleotide sequence of SEQ. ID. No. 1.

20. A method of imparting disease resistance to plants comprising: applying a protein or polypeptide according claim 17 in a non-infectious form to a plant or plant seed under conditions effective to impart disease resistance.

21. A method according to claim 20, wherein plants are treated during said applying.

22. A method according to claim 20, wherein plant seeds are treated during said applying, said method further comprising: planting the seeds treated with the hypersensitive response elicitor in natural or artificial soil and propagating plants from the seeds planted in the soil.

23. A method of enhancing plant growth comprising: applying a protein or polypeptide according claim 17 in a non-infectious form to a plant or plant seed under conditions effective to enhance plant growth.

24. A method according to claim 23, wherein plants are treated during said applying.

25. A method according to claim 23, wherein plant seeds are treated during said applying, said method further comprising:

5       planting the seeds treated with the hypersensitive response elicitor in natural or artificial soil and  
      propagating plants from the seeds planted in the soil.

26. A method of insect control for plants comprising:  
10       applying a protein or polypeptide according claim 17 in a non-infectious form to a plant or plant seed under conditions effective to control insects.

27. A method according to claim 26, wherein plants are treated during said applying.

15       28. A method according to claim 26, wherein plant seeds are treated during said applying, said method further comprising:  
      planting the seeds treated with the hypersensitive response elicitor in natural or artificial soil and  
      propagating plants from the seeds planted in the soil.

20       29. A method of imparting disease resistance to plants comprising:  
      providing a transgenic plant or plant seed transformed with a DNA molecule according to claim 1 and  
      growing the transgenic plant or transgenic plants produced  
25       from the transgenic plant seeds under conditions effective to impart disease resistance.

30. A method according to claim 29, wherein a transgenic plant is provided.

30       31. A method according to claim 29, wherein a transgenic plant seed is provided.

32. A method of enhancing plant growth comprising:  
      providing a transgenic plant or plant seed transformed with a  
35       DNA molecule according to claim 1 and

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growing the transgenic plant or transgenic plants produced from the transgenic plant seeds under conditions effective to enhance plant growth.

5 33. A method according to claim 32, wherein a transgenic plant is provided.

34. A method according to claim 32, wherein a transgenic plant seed is provided.

10 35. A method of insect control for plants comprising:  
providing a transgenic plant or plant seed transformed with a DNA molecule according to claim 1 and  
growing the transgenic plant or transgenic plants produced from the transgenic plant seeds under conditions effective to control insects.

15 36. A method according to claim 35, wherein a transgenic plant is provided.

20 37. A method according to claim 35, wherein a transgenic plant seed is provided.

25 38. A composition comprising:  
a protein or polypeptide according to claim 17 and  
a carrier.

39. A composition according to claim 38 further comprising an additive selected from the group consisting of fertilizer, insecticide, fungicide, nematocide, and mixtures thereof.